

through 1991 total only \$4.0 billion (see Table 6). Of that amount, \$2.0 billion is airlift-related (for the purchase of C-130Hs and modification of C-141s). Another \$1.0 billion pays for 40 percent of the military equipment to be prepositioned on the ships. Initially, equipment could be drawn from existing stocks. But equipment would eventually have to be replaced so that enough would be available for peacetime training and other needs. CBO assumes replacement would start in 1988 and be accomplished gradually. About \$0.9 billion in lease costs would be paid from the Navy operation and maintenance account in these five years. Finally, \$0.1 billion in CRAF costs are included to meet the Air Force's goal of 11.3 MTM/D in CRAF.

Total investment costs for Alternative III equal \$15.4 billion compared with \$29.3 under the Administration's plan. These costs include \$3.5 billion to buy 180 new tactical aircraft plus a total of \$2.5 billion to buy all the extra equipment needed for the division. Total program costs also include total lease costs of \$8.6 billion over the entire 30-year period of 1987 through 2016.

Discounted life-cycle costs under this approach total \$99.7 billion compared with \$118.1 billion under the Administration's plan. (These costs include costs to operate the 1989 airlift fleet as well as the costs of the prepositioning increment.) This reduction of about 16 percent reflects not only the lower acquisition costs noted above but also the reduced costs of operating an airlift fleet with only 48.5 MTM/D of capability.

This comparison of life-cycle costs may, in fact, understate the cost advantage of maritime prepositioning over airlift. The entire fleet of C-17s that the Administration would buy could move one division's equipment in 18 days. In that period, equipment prepositioned anywhere near a conflict zone could probably reach the area, be unloaded, and moved to the area of conflict. Yet, the added cost of the Administration's plan, in terms of discounted life-cycle costs, would total \$30.1 billion--about 2.6 times the added life-cycle costs of the ships, equipment, and tactical airlift purchased under this alternative.

Disadvantages

Despite its dramatic cost advantage, maritime prepositioning does have some important disadvantages compared with airlift. Alternative III's maritime prepositioning would itself add to airlift requirements, about 5 MTM/D for a heavy mechanized division prepositioned in the Indian Ocean. Because of the high value of some items and the problems of maintaining some equipment aboard ships, not all unit equipment can be prepositioned on

TABLE 6. EMPHASIZE MARITIME PREPOSITIONING: QUANTITIES AND ACQUISITION COSTS
(In billions of 1987 budget year dollars)

Aircraft	1987	1988	1989	1990	1991	Total 1987-1991	To Complete	Total Program
C-141 Modifications (267 Aircraft)								
Cost	0	a/	0.1	0.2	0.2	0.5	0.3	0.8
C-130H								
Quantity	15	15	15	15	15	75	105	180
Cost	0.3	0.3	0.3	0.3	0.3	1.5	2.0	3.5
Maritime Prepositioning Ships								
Quantity	0	0	12	0	0	12	0	12
Lease Cost	0	0	0.3	0.3	0.3	0.9	7.7	8.6
Equipment Purchase								
Cost	0	0.3	0.3	0.3	0.3	1.0	1.5	2.5
Total Cost	0.3	0.6	0.9	1.0	1.0	3.9	11.5	15.4

SOURCE: Congressional Budget Office.

a. Less than \$50 million.

ships. Helicopters, for example, are not prepositioned and would still need to be transported to the combat zone. The 5 MTM/D requirement, however, could be met without buying additional aircraft--for example, by delaying the deployment of the Army's new light division. The increased firepower and ground mobility that the prepositioned heavy division provides should more than compensate for the delayed arrival of a light division.

More importantly, maritime prepositioned equipment must be unloaded, which requires either access to port facilities or specialized equipment and auxiliary vessels, such as crane ships (TACS). The current DoD program to build such vessels is sized to the current sealift and maritime prepositioning program; thus, additional ships and equipment might be required under this alternative. Also, once alerted, the ships must sail to their point of debarkation, which might take four to five days if prepositioning were, for example, in Diego Garcia. Like other sealifted material, equipment must then travel under its own power or be transported from the port to the combat area. As a result, the initial increments of prepositioned equipment are likely to arrive later than the earliest equipment shipped by air. This time lag could be important in some military situations.

SUMMARY OF COST COMPARISONS

Table 7 summarizes the results of the cost comparisons in this study. In terms of near-term investment costs for the next five fiscal years (1987-1991), little choice exists among the three airlift options. All three of them would require budget authority of \$7 billion to \$11 billion in the five-year defense program. No opportunity for near-term savings is available because, if the Congress were to cancel the C-17 program, it would have to fund continued production of C-5Bs and KC-10As before the production lines for those aircraft are torn down.

In the longer term, however, by buying the alternative aircraft instead of the C-17, the Congress could achieve the 66 MTM/D airlift goal six years earlier and still save \$3.7 billion dollars, or about 3 percent of the 30-year airlift bill. The Congress would have to weigh this earlier gain in capability against the qualitative improvements expected with the C-17.

As an alternative, the Congress could undertake a more modest program of airlift improvements, raising capability to 56 MTM/D rather than the 66 MTM/D level the Administration seeks. This approach would save \$19.6 billion, or about 17 percent, over the next 30 years. This level of capability, however, would not meet airlift requirements for an intense conflict with the Soviet Union.

As a third alternative, the only one that offers the prospect of significant near-term budgetary savings, the Congress could forgo any further improvements in airlift once the 48.5 MTM/D level is reached, and instead invest in additional prepositioning of equipment and supplies. Savings from this option amount to \$6.1 billion in investment costs over the next five years. Long-term discounted costs for this option, estimated at nearly \$100 billion, are comparable to those for Alternative II, which limited airlift expansion. Because this option could provide a fully-supplied heavy Army division to the theater commanders within two weeks of the outbreak of hostilities, the war-fighting enhancement this option offers is more comparable to the Administration's plan, which provides the full 66 MTM/D of intertheater airlift.

Costs, of course, are not the only consideration. As the discussion above noted, the approaches outlined in this chapter vary in the time required to meet airlift goals or, in the case of the prepositioning option, in the rapidity with which cargo could be moved once a conflict began.

TABLE 7. SUMMARY OF COSTS FOR THE OPTIONS
(In billions of 1987 budget year dollars)

	Near-Term Investment Cost	Total Cost for 30 Years <u>a</u> /
Administration's Plan	10.1	118.1
Achieve Airlift Goal Earlier	10.9	114.4
Accept a Lower Airlift Goal	7.7	98.5
Emphasize Maritime Prepositioning	4.0	99.7

SOURCE: Congressional Budget Office.

a. Discounted at a 2 percent real rate.

APPENDIXES

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APPENDIX A

DESCRIPTIONS OF TRANSPORT AIRCRAFT

The transport aircraft currently available to support airlift operations range from the giant C-5 Galaxy to the veteran C-130 Hercules. In terms of capabilities, the proposed new C-17 falls in between. Externally, it is about the same size as the C-141, but will carry twice the cargo as the latter over a longer range. Moreover, like the C-130, it will be able to operate routinely on smaller airfields, but with a much greater payload. The technical specifications of these military airlift aircraft, as well as commercial cargo aircraft, are described below.

C-17 Aircraft

The C-17 will be a high-wing, T-tail, long-range jet transport. It will be powered by four Pratt & Whitney PW 2037 turbofan engines, which are now in commercial service. The C-17 will carry its maximum payload of 172,000 pounds of cargo for at least 2,400 nautical miles. Examples of its payload include 18 standard military pallets, or one M1 tank and one Bradley fighting vehicle, or eight medium trucks. (Characteristics of the C-17 and other transport aircraft are presented in Table A-1.)

The C-17 is currently being developed by the McDonnell Douglas Corporation (MDC). A preliminary development contract was awarded to MDC in July 1982, as a result of a design competition in which Lockheed Corporation and Boeing Aircraft Company also participated. Full-scale development was authorized in 1985, and the first flight is now scheduled for 1990, with initial operating capability for a 12-aircraft squadron in 1992.

The C-17 has been designed to achieve better reliability and requires less maintenance than existing military transport aircraft. It can also be operated by a minimal crew (pilot, copilot, and loadmaster). In addition, its design incorporates capabilities--such as the low altitude parachute extraction system and combat offload techniques--more typical of smaller, tactical aircraft such as the C-130. In short, it was designed to combine the heavy lift capability of a long-range transport with the austere airfield capability of a tactical airlifter.

TABLE A-1. CHARACTERISTICS OF U.S. MILITARY TRANSPORT AIRCRAFT

Specification	C-130H	C-141B	C-5B <u>a/</u>	KC-10A	C-17
Dimensions (feet)					
Wingspan	133	160	222	165	165
Length	100	168	248	182	175
Height	38	39	65	58	53
Cargo Compartment (feet)					
Width	10.0	10.2	19.0	18.2	18.0
Length	39.2	93.3	121.0	125.7	85.2
Height (at highest point)	9.0	9.1	13.5	10.9	12.3
Floor area (square feet)	370	937	2,747	n.a.	1,534
Weight (thousands of pounds)					
Empty weight	74	149	363	241	237
Maximum gross weight	155	343	837 <u>b/</u>	590	570
Maximum payload	35	95	261	169	172
Average payload <u>c/</u>	25	55	138 <u>d/</u>	83	97
Performance					
2,500 nm. (nautical miles)					
Block speed (knots) <u>e/</u>	260 <u>f/</u>	410	423	445	440
Range (nm.) <u>g/</u>	2,038	2,550	2,738	3,800	2,400
Objective utilization rate	3.0	12.5	12.5	10.0	15.2
Minimum takeoff <u>h/</u>	2,300	8,420	7,450	11,000 <u>i/</u>	4,360
Minimum landing <u>j/</u>	2,360	3,840	4,610	4,500	2,420
Minimum runway width	60	98	147	148	90

(Continued)

Specification	C-130H	C-141B	C-5B <u>a/</u>	KC-10A	C-17
Cargo Capabilities					
463L pallets	6	13	36	27	18
Oversize cargo	Yes	Yes	Yes	Some <u>k/</u>	Yes
Outsize cargo	No	No	Yes	No	Yes
Combat offload	Yes	Yes	No	No	Yes
Low altitude parachute extractions	Yes	No	No	No	Yes
Airdrop cargo	Yes	Yes	Yes	No	Yes
Other					
Crew size	4	4	6	4	3
Fuel consumption (gallons/hour)	785	2,025	3,455	2,985	2,625
Total manpower per MTM/D	n.a.	1,544	877	517 <u>l/</u>	676
Inflight refueling	No	Yes	Yes	Yes	Yes

SOURCES: Except as noted below, source for all data on the C-130H, C-141B, and C-5B is Department of the Air Force, "Airlift Planning Factors," AFR 76-2 (February 17, 1982). Source for the KC-10A is "Specifications," *Aviation Week and Space Technology* (March 10, 1986), pp. 148-150. Source for the C-17 is U.S. General Accounting Office, "Performance Capabilities of the C-5 and C-17 Cargo Aircraft," NSIAD 84-119 (July 9, 1986), Appendix II. Average payload and utilization rates are reported in Department of the Air Force, *Airlift Master Plan* (September 1983), Table A-2.

NOTE: n.a. = not applicable.

- a. C-5As that have undergone wing modification are essentially identical.
- b. Limit for 2.25 G maneuver load factor. Higher gross weight takeoff capability demonstrated in tests; manual sets 764,500 pound limit.
- c. Average payloads used in *Airlift Master Plan* capability calculations.
- d. Based on higher gross weight limit established in tests; Lockheed estimates an average payload of 155,000 pounds.
- e. Average speed over a 2,500 nautical mile range, including time spent in takeoff, climb to cruising altitude, approach, and landing.
- f. 1,500 nautical mile block speed for C-130H.
- g. Maximum range with maximum payload and standard MAC fuel reserves.
- h. With maximum payload for 2.25 maneuver load factor and maximum fuel.
- i. Critical field length (sea level, 90° F).
- j. With maximum payload and fuel for 500 nm. return with zero payload.
- k. Oversize cargo must be mounted on a pallet or two pallets joined together.
- l. This figure excludes contractor support.

At its present stage of development, the C-17 aircraft appears capable of meeting (and in some cases, exceeding) all of the requirements set by the Air Force. In addition, many of the specifications for performance, such as the reliability and maintainability standards, the structural integrity of the airframe and components, and the takeoff/landing performance will be warranted by the manufacturer, so that any deficiencies must be corrected at no increase in contract price. But such capabilities do not come cheaply. The acquisition cost of the C-17 is currently estimated to average \$142 million (in constant 1987 dollars of budget authority).

C-5A/B Galaxy

The largest aircraft operated by the Military Airlift Command is the Lockheed C-5 Galaxy. The original A model of the C-5 was produced from 1968 to 1973. Seventy-seven of these original aircraft remain in service with MAC. The C-5 can carry up to 174,500 pounds of cargo for a range of 3,000 nautical miles. One C-5 can transport 6 AH-64 Apache helicopters or 2 M1 tanks or 6 Bradley fighting vehicles, or 36 standard military pallets.

Wing Loading Restrictions. The C-5's impressive capabilities have never been fully realized, however. Not long after the aircraft entered service, wing cracks appeared on some aircraft, leading the Air Force to limit the peacetime operation and payload of the aircraft in the interest of extending its service life. The original C-5As are currently undergoing modifications to strengthen their wings, and these modifications have also been incorporated into the new C-5Bs now being delivered. The service life of the aircraft is now estimated at 30,000 hours.

Direct Delivery. The C-5 could be used for direct delivery to some forward airfields. When it was designed, the C-5 was to operate into limited forward airfields just as the C-17 is now planned to do: "the aircraft shall be designed to permit delivery of these forces in or near the objective area utilizing relatively short, low strength airfields."¹ The Air Force, however, has not operated these aircraft on such airfields in peacetime and does not plan to do so routinely in wartime. A main reason is the inability of the aircraft to operate routinely on restricted taxiways and ramp spaces. Another reason is the fear that, should a maintenance problem ground the aircraft, the sheer size of the C-5 would disrupt airfield operations.

Payload Capacity. The manufacturer of the C-5 also asserts that the aircraft is capable of carrying a larger payload than the Air Force currently

1. Air Force Systems Command, Request for Proposal 33-647-5027 (October 9, 1964).

permits. This extra capability may affect the number of aircraft needed to achieve the 66 MTM/D intertheater airlift goal and the cost of options featuring procurement of additional C-5Bs. Recently, the Air Force tested the performance of the C-5B at gross weights exceeding the 772,000 pound limit specified in the C-5's operations manual. The tests indicated that the C-5 could take off with a gross weight of 837,000 pounds and could be refueled in flight to a higher limit, although the aircraft became considerably more difficult to control.

These results, obtained under special test conditions, may not be significant for ordinary field operations. The usefulness of this extra weight depends, of course, on what kind of cargo is being carried and where it can be delivered. Floor space, not weight, is often the limiting factor in loading an aircraft. Aircraft loading exercises performed by the Lockheed Corporation, based on actual mixes of cargo used in mobility analyses such as the CMMS, suggest that the average realized payload of the C-5, given this higher limit, would grow from 68.9 tons to 77.5 tons--a productivity increase of about 13 percent.

Cost of the C-5s. The 50 C-5s currently being procured cost an average of \$168 million (in fiscal year 1987 dollars). The Lockheed Corporation has recently offered to sell the Air Force 24 additional aircraft at an average price of \$90 million in constant 1984 dollars. Based on this offer, CBO estimates that unit program costs for the C-5, including support costs, would be about \$125 million in 1987 dollars.

KC-10A Cargo/Tanker Aircraft

The KC-10A is a military version of the commercial DC-10 aircraft manufactured by the McDonnell Douglas Corporation. It is a three-engine, wide-bodied transport that can be operated either as a tanker or as a cargo aircraft. Currently, all KC-10s are operated by the Strategic Air Command, primarily as tankers.

The KC-10A is incapable of carrying outsize equipment such as tanks and large helicopters. Its cargo door, which is high on the side of the aircraft, limits its usefulness as a military transport, since specialized unloading equipment is required at the destination. Thus, the KC-10s are best suited to hauling bulk and certain oversize cargo to main operating bases. In this role, however, the aircraft is effective; it can transport up to 170,000 pounds of cargo (or 27 standard military pallets) for an unrefueled range of 3,800 nautical miles.

The eight KC-10As being acquired in 1987 cost about \$63 million each, which is considerably less than the C-17 or the C-5B.

C-141B Starlifter

Most of the aircraft operated today by MAC are C-141Bs, four-engine long-range transports built between 1963 and 1968. The C-141B can carry 66,500 pounds of cargo over an unrefueled range of 3,000 nautical miles. The C-141B can carry a variety of bulk and oversized cargo, but cannot carry outsized cargo. It can drop cargo or parachute troops as well as transport cargo. Because of its more limited power-to-weight ratio and 1960s design, it requires considerable runway length to take off and land with a payload and is not capable of forward operations to limited airfields.

All C-141s were converted to the B model by 1982. This modification involved stretching the fuselage and increased its passenger and cargo-carrying capability. At the same time, other modifications were made to extend the service life of the aircraft structure to at least 45,000 flying hours (the C-141 fleet currently averages some 27,000 accumulated flying hours, a figure that grows by about 1,000 hours per year per aircraft). It is estimated that the C-141B airframe may be capable of up to 60,000 flight hours. CBO estimated that the costs to extend the service life to this extent would be \$3 million per aircraft.

C-130 Hercules Tactical Airlifter

The C-130 Hercules had its first flight in 1954. Since then, over 1,800 aircraft have been produced by the Lockheed Corporation in a variety of models, including tankers (KC-130 and HC-130), electronic warfare (EC-130), gunship (AC-130), and special operations aircraft (MC-130). In the standard transport configuration, four models (C-130A/B/E/H) are currently in service with the U.S. Air Force. The A models (of which 113 were still in service in 1985) average 29 years of age. While some aircraft are scheduled for retirement in 1987, others are currently undergoing service-life extension programs that will enable them to continue in active service until the mid 1990s. Similarly, the B models (numbering 94 in 1985) will need to be replaced by the year 2000.

Modernized C-130Hs can carry up to 43,160 pounds of cargo or 91 troops for short distances and restricted payloads of 24,000 pounds for 3,000 nautical miles. They can carry oversized equipment, as long as it is not too heavy. The C-130H can operate on paved or unpaved runways 3,000 feet in

TABLE A-2. CHARACTERISTICS OF
U.S. COMMERCIAL AIRCRAFT

Specification	707 -320C	747 -200F	DC-8 -63F	DC-10 -30CF
Dimensions (feet)				
Wingspan	146	196	148	165
Length	153	231	187	182
Height	43	64	42	58
Cargo Compartment (feet)				
Door width	11	11	11.7	11.7
Door height	7.6	10	7	8.5
Floor area (main compartment)	1,143	3,032	2,312	n.a.
Weight (thousands of pounds)				
Empty weight	140	342	152	241
Maximum gross weight	336	833	355	580
Maximum payload	60	198	83	138
Average payload <u>a/</u>	n.a.	146	n.a.	83
Performance				
2,500 nm. (nautical miles)				
Block speed (knots)	440	450	440	445
Range (nm.)	4,100	3,700	2,800	3,100
Objective utilization rate	10.0	10.0	10.0	10.0
Runway Length (feet) <u>b/</u>				
Takeoff	10,400	10,500	10,450	10,700
Landing	6,250	6,900	6,600	6,320
Cargo Capabilities				
463L pallets	13	46	18	30
Oversize cargo	No	Yes	No	Yes
Outsize cargo	No	No	No	No
Airdrop	No	No	No	No
Combat offload	No	No	No	No

SOURCES: "Specifications," *Aviation Week and Space Technology* (March 10, 1986); Department of the Air Force, "Airlift Planning Factors," AFR 76-2 (February 1982); Department of the Air Force, *Airlift Master Plan* (September 1983), Table A-2.

NOTE: n.a. = not available.

- a. Planning factor used in capability calculations for the *Airlift Master Plan*.
- b. FAA minimums for routine peacetime operations with maximum payload. Wartime minimums have not been established.

length. It can airdrop troops or cargo and can use the low altitude parachute extraction system and combat offload techniques. The current price of the C-130H is \$19.4 million.

Civil Reserve Air Fleet Aircraft

In an emergency, commercial aircraft operated by carriers that belong to the Civil Reserve Air Fleet would become available to transport military cargo. These aircraft include all-cargo or cargo-convertible versions of the Boeing 707 and 747, and the McDonnell Douglas DC-8 and DC-10. ^{2/} The Administration's CRAF Enhancement Program is currently adding 19 Boeing 747 aircraft to the CRAF cargo fleet by paying for modifications to allow these passenger aircraft to be converted rapidly to cargo operation.

Table A-2 (on the previous page) describes the capabilities of the various CRAF aircraft. Note that the commercial DC-10 can carry more pallets than the military KC-10--a result of the installation of the refueling boom on the latter, which limits its cargo payload space. Only the 747 and DC-10 can carry oversize cargo. Certain 747 aircraft are equipped with both a nose and side door; DC-10s have only a side door. Both aircraft require special equipment to load and unload cargo, and are restricted to main operating bases with such facilities.

2. These aircraft are capable of long-distance international cargo missions. Other aircraft, such as the Boeing 727 and 737 and the McDonnell Douglas DC-9, also belong to the CRAF cargo program and would be used for domestic or short-distance international missions in an emergency.

APPENDIX B

SENSITIVITY ANALYSIS OF TOTAL AIRLIFT COST ESTIMATES

The Congressional Budget Office calculated total airlift costs for the 1987-2016 period for the Administration's plan and three alternative plans. These costs included those for procurement of new aircraft as well as operating and support costs for all airlift aircraft in the fleet. In the case of the option for maritime prepositioning ships (Alternative III), costs include those to operate the current airlift fleet, the incremental costs to buy and operate the additional maritime prepositioning ships, plus the cost of a duplicate set of Army equipment to be placed on the ships.

Annual costs, which were expressed in constant dollars of fiscal year 1987 budget authority, were discounted at the rate of 2 percent per year. Future costs are discounted to reflect the present value of future resources and to make it easier to compare alternatives that involve different time patterns of expenditures. The 2 percent rate was chosen based on the current differential between the interest rate on long-term, risk-free securities and CBO's estimate of the current rate of inflation.

Sensitivity to the Discount Rate

To test whether its results were sensitive to the particular rate chosen, CBO discounted costs at 4 percent and also left them undiscounted. Variations within this range made no substantive difference in the results (see Table B-1). The relative ranking of the four options as to cost did not change, although the savings from the alternatives were reduced at the higher rates of discount. Lower discount rates would seem to favor the Administration's plan, since it offers long-term operating savings against higher initial costs for procurement. This effect was mitigated, however, by the fact that procurement costs for the C-17 are stretched over a much longer period than any of the alternatives (and thus are discounted more).

Sensitivity to Operation and Support Costs

As noted in Chapter III, the Air Force argues that, if C-5s were bought instead of C-17s, it would be necessary to operate them at higher rates in

peacetime. This factor would increase the cost of Alternatives I and II, which feature purchases of C-5Bs. CBO reestimated the total costs using annual operating and support (O&S) costs of \$13.8 million for the C-5A and \$12.7 million for the C-5B. These costs are 27 percent higher than those used by CBO in its analysis, and reflect 1,176 flying hours per aircraft per year, versus the 774 hours CBO used.

Using the higher O&S costs, Alternative I would cost \$120.6 billion over the 1987-2016 period, \$2.5 billion more than the Administration's plan featuring the C-17 (see Table B-2). The cost of Alternative II also increases by some \$4.3 billion, although it remains well below the cost of the Administration's plan.

TABLE B-1. SENSITIVITY OF COST ESTIMATES
TO THE DISCOUNT RATE

Option	Discount Rate (In percents)		
	0	2	4
Total Life-Cycle Costs (In billions of 1987 budget year dollars)			
Administration's Plan (Buy C-17)	150.0	118.1	96.0
Alternative I: Achieve Capability Earlier (Buy C-5/KC-10)	146.2	114.4	92.4
Alternative II: Accept a Lower Airlift Goal	125.8	98.5	79.7
Alternative III: Emphasize Maritime Prepositioning	129.1	99.7	79.7
Savings from the Administration's Plan			
Alternative I	3.8	3.7	3.6
Alternative II	24.2	19.6	16.3
Alternative III	20.9	18.4	16.3

SOURCE: Congressional Budget Office.

While this change would reverse CBO's findings that Alternative I is modestly cheaper than the Administration's proposal, it would not alter the fact that Alternative I offers a six-year improvement in meeting the inter-theater airlift goal, at a cost comparable to the Administration's proposals.

The Uncertainty of Procurement Costs

The costs of the full C-17 program are still estimates. The C-5 costs, by contrast, are based on a firm offer. Historically, DoD's track record in procuring major weapon systems would tend to suggest a higher risk that the

TABLE B-2. SENSITIVITY OF COST ESTIMATES
TO C-5 PEACETIME OPERATING RATE

Option	C-5 Peacetime Flying Hours (Per aircraft per year)	
	774	1,176
Total Life-Cycle Costs (In billions of 1987 budget year dollars)		
Administration's Plan (Buy C-17)	118.1	<u>a/</u>
Alternative I: Achieve Capability Earlier (Buy C-5/KC-10)	114.4	120.6
Alternative II: Accept a Lower Airlift Goal	98.5	102.8
Alternative III: Emphasize Maritime Prepositioning	99.7	<u>b/</u>

SOURCE: Congressional Budget Office.

- a. Because of the C-17 flying hour program, it would not be necessary to operate the C-5B at the higher rate in the Administration's plan.
- b. As long as C-141Bs were maintained at a ratio of four crew members per plane, it would not be necessary to increase the C-5B flying rate under this alternative plan.

C-17's cost will grow. This factor would increase the savings from the alternatives.

On the other hand, in recent years, programs have shown much less unanticipated cost growth than was true in the 1970s. Most recently, the total estimated cost of programs listed in the Selected Acquisition Report actually declined by about 6 percent (although most of this decline resulted from a bookkeeping change related to lower assumptions for inflation).

Furthermore, the C-17 program offers less technical risk than the average DoD development program, since many features of the aircraft were demonstrated on the YC-15 prototype or elsewhere. As a result, CBO found no reason to question the U.S. Air Force's cost estimate of \$29.3 billion to complete the C-17 program.

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